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SALISBURY'S AGUE THEORY.

Read before the Sacramento Society for Medical Observation, April, 1868, by H. W. HARKNESS, M.D.

IT is now more than two years since Dr. Salisbury published to the world his very ingenious theory of the cause of ague, and the medical profession seem, thus far, to have accepted the theory advanced as the correct one; and the great question as to the origin of miasmatic poison, which had baffled the chemist for centuries, for the time seemed to be forever set at rest by the microscopic botanist. A small vegetable spore of Palmella, one five-thousandth of an inch in diameter, was dragged to the light of day and the culprit put upon his trial. A few suspicious circumstances connected with the development and growth of the criminal were brought forward as proofs, and cleverly analyzed, and the little atom was declared guilty of having been the cause of half the ills of human life.

There were those, however, who were not disposed so readily to admit that the case had been fairly tried; the writer of this paper was among the number.

Of this plant, the Palmellaceæ, Dr. Carpenter says:—"They all grow either on damp surfaces, or in fresh or salt water, and may either consist of a mere powdery layer, of which the components may have little or no adhesion to each other, or they may present themselves in the condition of an indefinite, slimy film; or in that of a tolerably firm and definitely bounded membranous frond. The first of these states is characteristic of the Palmoglœa and the Protococcus; the new cells which are originated by the process of duplicative subdivision usually separating from each other after a short time, and even when they remain in cohesion, nothing like a frond or membranous expansion being formed. The red snow of the Alpine and Arctic regions, although formerly considered a species of Protococcus, as its cells are connected by a tolerably firm, gelatinous investment, would seem to be a Palmella. The second condition of the genus is the Palmella cruenta, or gory dew, and grows upon damp walls as a tough, gelatinous mass."

The writer's acquaintance with the Palmella began some six years since, while making observations upon the growth and development of the Protophytes, my attention being first attracted to the motile condition of the cells, which were at first mistaken for animal organisms. Since reading Dr. S.'s very interesting paper upon the subject, two years since, I have more carefully noted the characteristics of this plant. They have been obtained by me by exposing plates of glass (not, however, in great numbers), by examining earth from ague districts, as well as the urine and saliva of ague patients; without, however, obtaining such results as to relieve me of the scepticism entertained from the first as to the truth of the new theory.

By far the most curious and interesting variety of the Palmella is to be found in this city; is met with on our garden walks, on the sides of buildings and on the borders of ditches, wherever warmth and moisture are suited to its growth and development—the Palmella cruenta, or "gory dew." This consists of a great number of aggregated, globose cells, about one three-thousandth of an inch in diameter, consequently a trifle larger than the red blood-corpuscles. They are united together by a glutinous substance which is, no doubt, owing in a great measure to the aggregation of the fronds. Each of the cells is capable of duplicative subdivision, separating into two new cells, they again subdividing, with such rapidity as almost to exceed belief. This combination of cell and frond covers considerable spaces of earth in a single night, and creeps up the sides of walls so rapidly as to excite the fears of the ignorant and superstitious.

As it is important that we should thoroughly comprehend with what incredible rapidity the cells are formed (as will appear in another portion of this paper), I shall take the liberty to quote from D'Aubigne's History of the Reformation, vol. iv. p. 420, a somewhat vivid description of a

remarkable instance of the appearance of this plant in Switzerland, as related by Zwingle :—"On the 26th of July, a widow, chancing to be alone in her house, in the village of Castelenschloss, suddenly beholds a frightful spectacle, blood springing from the earth all around her. She rushes in alarm into the cottage ; but oh, horrible ! blood is flowing everywhere, from the earth, from the wainscot, and from the stones ; it falls in a stream from a basin on a shelf, and even the child's cradle overflows with it. The woman imagines that the invisible hand of an assassin has been at work, and rushes in distraction out of doors, crying 'Murder!' The villagers and monks of a neighboring convent assembled at the noise. They partly succeeded in effacing the bloody stains, but a little later in the day the other inhabitants of the house, sitting down in terror to eat their evening meal, under the projecting eaves, suddenly discover blood bubbling up in a pond, and found blood flowing from the loft ; blood covering all the walls of the house ; blood, blood everywhere."

Another variety consists of cells much smaller, about one eight-thousandth of an inch in diameter, of a black color, less gregarious than the Palmella cruenta, clusters not often being found. These cells are many of them motile at certain seasons of the year, moving with an oscillatory motion, increasing, like all its fellows, by subdivision.

These plants are found in all parts of our city at the present time (April, 1868) in countless myriads ; the black earth in what is termed the alkaline district is covered with them, and, what is most curious, they are found in great numbers amidst the crystals of carbonate of soda, which whitens the damp soil in some sections of our city during the summer season.

Still another species, somewhat smaller than the preceding, slightly oval-shaped, with a distinct nucleus, and possessing but limited motile power, is found in extremely black patches, appearing as though ink had been poured out upon the ground. They were found in connection with great numbers of the Oscillatoria, which fact will probably account for the inky appearance of the earth. This species, or one like it in all essential particulars, I have found in all samples of earth where I have searched for it, and it is extremely probable that there is not a square inch of the earth's surface in this valley, exposed to the sun's rays and possessing the requisite moisture, that does not contain millions of them. I have observed many others which I think should be classed with the Palmella, but are of doubtful identity ; one of which number is the Nostoc commune, which is found attached to weeds and grass growing in the water, or floating upon the surface, resembling frogs' eggs, and made of beady filaments enclosed in gelatinous fronds.

It is unnecessary for me to give an account in detail of the plans adopted by Dr. Salisbury to discover the vagrant spores of this plant in the atmosphere. You are already familiar with his plan. The conclusions, however, are somewhat curious :—

I. That the Cryptogamic spores and other minute bodies are mainly elevated above the surface during the night. That they rise and are suspended in the cold, damp exhalations from the soil after the sun has set, and they fall again to the earth soon after the sun rises.

II. That in the latitude of Ohio these bodies seldom rise above from thirty-five to sixty feet above the land levels. That in the northern and central portions of the State they rise from thirty-five to forty-five feet, while in the southern from forty to sixty feet.

III. That at Nashville and Memphis they rise from sixty to one hundred feet or more above the surface.

IV. That above the summit plane of cool night exhalations these bodies do not rise and intermittents do not extend.

V. That the day air of malarial districts is quite free from these Palmelloid spores and from causes that produce intermittents.

On page 64, No. 101, of the *American Journal of the Medical Sciences*, Dr. Salisbury says the upper surface of these exhalations describes a horizontal plane stretching away from the place of origin in the direction traced by the wind. The cells and spores of these Palmellæ are found diffused throughout these vapors, but do not extend above them. They occur, however, more abundantly at or near their upper surface than lower down.

The first proposition appears to me a singular one. On what principle is it that Cryptogamic spores or other minute bodies are elevated during the night and fall again as soon as the sun has risen ?

The spores of the Palmella are invested each in its gelatinous frond. When dried it again readily absorbs moisture. Should the plants become desiccated during the day, as is the case on the borders of streams and dry beds of ponds in Autumn, reasoning from analogy, the wind should take up myriads of these spores and waft them on

its wings to remote distances, as is the case with all other Cryptogamic spores. But no, there is an exception here; the Palmella spore hugs its bed when dry and light as air, and while its near relatives, the Protococcus and Nostoc are sailing off into the regions of space, it patiently waits until the dews of evening have properly ballasted its pinions, when, mayhap, without the assistance of the gentlest breeze, it rises, by overcoming its own inertia, to a height of from 15 to 100 feet (according to the latitude), and then sails away, exercising, however, the greatest caution that he is not stranded upon some promontory which may jut out into and tower above his domain, too nicely ballasted to rise above his proper sphere, satisfied that at last he has gained his level. Nor is this all. The rays of the morning sun, dissipating the moisture upon its wings, like Icarus it falls to to the earth again.

From necessity, Cryptogamic plants are cosmopolitan in their habitat; one species, the Zygnema, found in the greatest abundance in this city, is common in the United States and Canada, and, according to Macmillan, is found in the delta of the Ganges, on the table lands of Central India, and is equally at home at an elevation of 15,000 feet, forming cloudy masses in the ice cold water which trickles from the edges of the glaciers of the Himalayas.

Nor need this excite surprise; the spores of the Palmella and Protococcus especially have been found whenever hunted for, in every portion of the earth yet visited by man.

These spores, light as air, and invisible to the unaided eye, may be wafted by the wind for thousands of miles. In proof of this assertion, they are found on the highest summits of the Alps, amidst the eternal snows. And Mr. Scoresby, in 1823, found them in abundance on the icebergs of the Northern Ocean, while the mariner, when far out in the Indian Ocean, finds them entangled in his sails, brought by the trade winds from the distant islands of Java and Borneo.

With these facts before me, I cannot believe that the Palmella found in ague districts is an exception to the rule, especially after having arisen to the height of one hundred feet or more, as claimed by Dr. Salisbury: that it should rest suspended in the air without change of location regardless of atmospheric currents, is altogether too great a tax upon our credulity. To me, the conclusion is irresistible, that the failure of Dr. Salisbury to find the spores in the atmosphere above a certain level was owing to some fault in his apparatus, or too hastily conducted observations.

Let us now proceed to examine into the *modus operandi* of the introduction into the system of this so-called poison. It is a well-known fact that many persons are poisoned by a near approach to any one of several species of Phanerogamic plants, although there is no actual contact. In this case, all will admit there are no living organisms floating in the atmosphere, but rather a subtle ether, which soon becomes so attenuated or mixed with the surrounding air as to become perfectly innocuous. With the spore of the Palmella it is different; there we have a living organism, not likely to lose its alleged morbific poison by contact with the air.

It may be urged that these spores are, at any rate, less frequent upon the high levels, and consequently less pernicious. At first sight this would seem to be true, but Dr. Salisbury says the plant is reproduced in the human system; why, then, may not a single spore serve as a nucleus where they are reproduced with such marvellous rapidity as in this species?

North of the American river, and west of the Sacramento, contiguous to this city, there are large marshes of miles in extent. These large tracts are subject to overflow during the Winter and Spring months, the water disappearing about the first of July. The soil is alluvial, black and rich, and is densely covered with rushes (Juncus Acumenatus), amongst which Cryptogamic vegetation is found in great abundance, including Palmella of many varieties. Owing to the ground being so low, water may at all times be found within from one to three feet of the surface during the dry season.

On the borders of these marshes we find, during the early Autumn months, a belt of green of many rods in width, which consists of grass and weeds, concealing, like the rushes, Cryptogams in great profusion. Beyond this belt the ground slowly rises and becomes dry and arid in early Autumn.

The farmers living on and contiguous to these borders have long since learned that the ague prevails to a great extent along this shore line, and also for a considerable distance inland from its margin, whilst a residence in the centre of the marsh is safe. Now, how can we account for this fact? Why is the centre of the marsh healthy? All the conditions favorable to the development of ague (according to the new theory) are in existence; Palmella are abundant, growing upon the new earth, consisting of

sedimentary deposits, with a warm and damp surface, and abundant exhalation. Surely, according to Dr. Salisbury, the Palmelloid spores ought to exist in great profusion as night approaches, and ague should abound to an alarming extent. To me the answer appears plain.

As has been stated, the water at all times during the Autumn months is near the surface of the earth. Owing to this near contiguity, the earth, at and near the surface, is kept cool, not only altogether preventing putrefactive fermentation (which the writer still believes to be the cause of ague) in vegetable matters beneath the surface, but also in that upon the surface. Upon and some distance beyond the shore line the conditions are entirely different. Here the earth, although still moist, is heated to a considerable depth by the sun, producing just the condition necessary for the fermentation and decay of the vegetable matters beneath the surface. Nor is this all; the vegetation upon the surface is much of it dead, and is alternately dried by the sun during the day and moistened by exhalation from the steaming earth at night, resulting in putrefaction and fermentation, which, added to that rising from the earth, poisons the air of the locality. But the mischief does not end here; these poisonous emanations are conveyed by the atmosphere to the level plains beyond, to points where, at this rainless period, the earth is too dry for vegetable life or exhalation beneath, producing fevers as malignant as those found near the shore line of the marsh; and in this manner the poison may continue to exert its baneful influence until, by admixture with a healthy atmosphere, it loses its power for further mischief.

On page 59 of the *American Journal of the Medical Sciences* of January, 1866, from which I quote, Mr. S. gives the details of the case of the Brasee family. A fish-pond, long since drained, had been thickly coated with grass; a few rods had been spaded up for celery, turning up the damp soil, filled, as a matter of course, with vegetable matter in a partially decayed condition, distributing its noxious effluvia into the surrounding atmosphere. Ague was the result. Dr. S. visits the locality, finds the ague plant had sprung up like a crop of fire-weed in a location so favorable to its growth. He places the family under treatment, and they all recover. He advises that the celery patch should be covered with straw to the depth of six inches. No more ague plants were found, and there was no more complaint of the ague.

Now what did he prove by this experiment? A prolific source of the disease had been brought to light; by covering it with straw he restored it to its original condition, protecting the ground from the air as well as the scorching rays of the sun and the dews of night; restoring it, in short, so far as possible, to that condition it had formerly occupied when covered by the thickly matted turf.

Instances may be adduced without number, which show the same results. In the year 1841 the Western Railroad had been completed through Berkshire Co., Mass., where ague was never known. A large embankment had been thrown across a meadow. One morning in August the embankment had disappeared; the meadow proved to be but the covering of a subterranean lake. A large force of hands was brought to the spot, and the work of filling proceeded rapidly, although the new filling continued to sink to considerable extent as the work went on. When, however, a permanent road-bed had been formed, two large ridges of black, pestiferous mud had been raised by displacement, on each side of the roadway, and the laborers and farmers in the immediate vicinity were down with the ague, which continued until the moisture had been disposed of by percolation and evaporation, when a hard crust soon formed upon the surface. This crust, performing the same office as that of the straw, in the case cited by Dr. Salisbury, with the same result—the fermentation progressing beneath the surface was checked, the noxious exhalations ceased, and the ague disappeared.

On page 65 of the same Journal, Dr. S. says that after examining the urine microscopically of several hundred cases of intermittent and remittent fever, the results are highly interesting. They establish the fact that ague plants, the same as grown upon the ague soil, are constantly developing in the system of the intermittent fever patient, and that the urinary organs constitute one important outlet for the elimination of this fever vegetation.

By this language we are to understand that the spore is taken into the system through the tissues. By what means is this introduction brought about?

When we take into consideration the means provided for the protection of the pulmonary tissue, by which the smaller air passages are measurably, if not entirely

protected from the finest particles, must we admit that a like mucous membrane will readily yield admittance to the spore of a plant, although said spore may be considerably less in size than the blood corpuscle? And yet such must be the case if, as Dr. S. asserts, they are constantly being developed in the system of the ague patient. If there are those who believe that this method of the introduction of the spore into the system is impossible, but still insist that Dr. S. is correct in his statement that they exist in the circulatory system, they must take the other horn of the dilemma, and admit that a case of spontaneous generation is fully made out.

The discovery of the spore in urine voided by an ague patient in a malarial district, after standing for a short time, need not excite surprise when we take into consideration with what marvellous rapidity individuals of the lower order of Cryptogamic plants are reproduced and arrive at maturity. In proof of this remarkable facility several examples were cited in another portion of this paper, and an instance related by Zwingle amongst the number. Permit me, however, to call your attention to another and familiar example.

Some time during the latter days of May, or the early part of June, of last year, we had in this city a light shower of rain, which fell upon a perfectly dry pavement. Near my office a small pool was left after the shower (which lasted but a few minutes); the sun re-appearing bright and warm three hours after, the pool began to present a green appearance to the eye. Upon placing a droplet of this water under the microscope, it was found to be literally filled with living plants, a species of Protococcus, the spores of which, flying in the atmosphere, had become entangled in the rain-drops and fallen to the earth, and here was the plant in countless millions, full grown, and reproducing. Other millions were quietly rising to the surface of the pool for the benefit of the sunlight, and literally to enjoy their green old age.

The urine in most of our fever patients, as it is voided, is almost always in a condition bordering on fermentation. In such, vegetable growths appear like magic; the spores already in the vessel or furnished from the surrounding atmosphere, find a home in the fermenting liquid, just meeting the conditions necessary for their rapid growth and development. Amongst these may be found the filaments of the Conferva, the Torula cerevisæ and the Palmella; all reproduced, in my opinion, subsequent to the voiding of the urine.

So it is with the saliva during the night; in fact, during the day and night, the spores of many varieties of plants are constantly collecting and as constantly exhibiting themselves in the expectoration.

On page 67 of the same Journal, Dr. S records the result of an experiment in relation to the production of ague. Dr. Salisbury says:—"I filled six tin boxes with the surface earth from a decidedly malarious, drying prairie bog, which was covered completely with the Palmella, previously described. Cakes of the surface soil were cut out the size and depth of the boxes, and fitted carefully in without disturbing more than possible the surface vegetation. The covers were then placed on and the boxes transported to a high hilly district some five miles distant from any malarious locality, and where a case of ague had never been known to occur. The locality was over three hundred feet above the stream levels, was dry, sandy and rocky. I here placed the boxes of Cryptogams on the sill of an open second story window, opening into the sleeping apartment of two young men; removed the covers, and gave particular direction that the boxes should not be disturbed, and the window left open. On suspending a plate of glass over the boxes on the fourth day, during the night, the under surface of the plate the following morning was found covered with palmelloid spores, and numerous cells of the same kind adhered to a suspended plate in the room which was moistened with a concentrated solution of chloride of calcium. On the twelfth day, one of the young men had a well-marked paroxysm of ague, and on the fourteenth the other was taken down with the disease. They both began to feel unnatural and dull about the sixth day. All the stages of the paroxysm were well marked. The type in both cases was tertian, and was readily controlled by the appropriate remedies."

This was a very interesting experiment, and seems to have been conducted very carefully, except in a single particular. One cannot help regretting that Dr. S. had not placed other boxes in a like situation, having the boxes covered closely with fine linen, or some other material which should have prevented the escape of the spores altogether, but have allowed the noxious emanations from the damp and fermenting soil to have escaped freely into the room.

The facts resulting from my experience clearly convince me that the results of the latter experiment would have been the same.

During the two weeks that I have been engaged in collecting material for this paper it became necessary for me to obtain samples of earth from different ague districts in this city and its environs. These samples of earth were all damp—some of them throwing off a very disagreeable odor, and all contained spores of the Palmella in abundance. These microscopic examinations were conducted in a close and dry atmosphere and generally in the day time. Perhaps the most important result of these investigations (so far, at least, as I myself am concerned), is the fact that I have had three distinct paroxysms of the ague, and I have only been enabled to complete my examinations and write up my manuscript by the daily use of quinine.

This, it may be said, is an example which would go far to prove the correctness of Dr. S.'s theory; and such would be the case if taken as an isolated fact. But this is not by any means the first disagreeable hint I have had that there is danger in this field of investigation.

As before stated, I have occupied my leisure hours to some extent for several years in investigations connected with the study of vegetable histology. From time to time during that interval I have been in the habit of collecting a considerable quantity of different species of fresh water algæ. It has been my custom to keep the vessel containing them filled with water, changing it at intervals.

These growths were thus kept and examined at different periods, until decomposition had progressed so far as to render a new supply necessary. Unless using prophylactics I have never conducted such examinations without suffering from ague.

Permit me to cite one other example. The ladies of this city have, for two or three years past, been much interested in the preparation of skeleton leaves. The manner by which this is accomplished may be described thus: a large quantity of leaves are collected and placed in a convenient receptacle, water is poured upon them sufficient to fill the vessel, the leaves are then weighted down and placed on the roof in the sun, and left to the operations of nature; care being taken to keep the vessel full of water, which is never changed. After a few weeks or months the contents of the vessel are found in nearly a decayed condition, the leaf cuticle slips off at the slightest touch, the cells beneath are broken up and the endochrome and other cell-contents are but a pulpy mass, in the last stages of putrefactive fermentation. When reduced to this condition, the leaves are taken out by the hands, singly, the cuticle and endochrome washed away, leaving nothing but the frame work behind. The heat of the sun upon the surface of the water in the shallow vessels entirely prevents surface Cryptogamic growth, while I have discovered but a few filaments of a species of Nostoc in the mass, previous to the washing process. You will observe that the leaves are washed the instant they are taken from the macerating vessel, in an abundance of water, yet I have not met with a single lady who has been engaged in this occupation that has not suffered from ague.

As would seem perfectly natural, Dr. Salisbury endeavors to substantiate his theory by analogy betwixt the Cryptogamic and the Phanerogamic or flowering plants. In this attempt he has signally failed. Dr. S. says plants are poisonous in the flowering period. It is doubtless true that, to some extent, this is the case, and in what direction are we to look for the cause? Before entering upon the consideration of this portion of the subject, permit me to quote further from Dr. S.'s paper.

On page 74 he says: "The spores *and exhalations* of Cryptogams are not the only bodies in the atmosphere that excite, when inhaled, abnormal and diseased conditions. During the active flowering of phanerogams the air becomes loaded in their vicinity with the pollen of the flowers, and the *volatile principles of the plants. These matters are inhaled* in large quantity by those breathing the atmosphere containing them. If the plants produce no innocuous or active medicinal principle, the pollen *and exhalations*, except in particular instances hereafter referred to, have no abnormal influence upon the organism; but if they produce poisonous products or active medicinal agents the influence of the pollen *and volatile principles* inhaled is readily felt."

It is not true, as Dr. S. states, that during the flowering period the air is loaded with pollen grains. Nature is not thus lavish in that which was created for a special purpose alone. A grain of pollen is neither spore nor seed, but is a requisite for the production of the latter. If the atmosphere were loaded with these grains there would be no such thing as preserving varieties, as the pollen grains would be blown from field to field, and the farmer who plants but one variety of corn would harvest a mixture of all.

With the Cryptogamic spore the case is entirely different; here each spore is to all intents a seed, fully developed in all its parts, and ready to reproduce the perfect plant.

Myriads may be lost on the ocean or in the desert sands, yet, where sown so lavishly, enough will survive; and we find the great principle of nature fully carried out through the vegetable as well as in the animal kingdom, that although individuals may die, the species live.

Whilst denying that pollen grains are floating in great numbers in the air, I admit that these may possibly be poisonous at times. Yet there can be no difference in results in the two cases, if one should work in a damp, close room, stored with opium, and the other inhale the exhalations thrown off as he sleeps amidst the poppy gardens of Persia.

Mr. S. mentions the Rhus as being one of the plants which are poisonous during the flowering period, but there is not a particle of evidence that either the Rhus Vernix or the Rhus Toxicodendron are in any degree more noxious during the flowering period than at any other time of the year.

All other cases mentioned by Dr. S. are merely instances of idiosyncrasies, cases met with by every physician, such, for example, as severe coryza produced by the smell of new mown hay, and the eruptions from the presence of ipecac, &c.

In conclusion, it seems to be apparent that we must still look to the chemist (as in the past) for the solution of this momentous problem—the cause of ague.

Reports of Medical Societies.

OBSTETRICAL SOCIETY OF BOSTON. SECRETARY, HOWARD F. DAMON, M.D.

November 7th, 1868.—The Society met at the house of Dr. Cotting, at 8, P.M., the President, Dr. Putnam, in the chair.

Hæmorrhage eight days after Delivery.—Dr. Cotting reported the case.

Mrs. A. B., aged 40 years. First labor sixteen years ago; severe; followed by inflammation of the bowels. Second labor three years after the first; followed by acute rheumatism. Since then has had frequent attacks of pain in side in region of liver, and occasional fainting sensations, coming on suddenly, without apparent cause, and disabling her for the time.

Was very uncomfortable during recent pregnancy. Had leucorrhœal discharges during nearly the whole period.

June 10th.—After a drive of several miles, had slight hæmorrhage, with pains simulating labor pains. These passed off in a few hours, and she remained as before until—

June 17th.—After usual premonitions, and an active labor of two or three hours, was delivered of a footling, stillborn. Placenta came away immediately, unbroken, and the uterus contracted naturally, though the uterine tumor was considered rather larger than usual. The catheter was required for two or three days, as in previous labors. In all respects, the patient appeared to be doing well.

25th.—Eight days after delivery, profuse hæmorrhage came on suddenly, without discoverable cause. The abdomen was immediately swathed with compresses; which failing, a large sponge was introduced. This was kept in place until—

June 28th, when, fluid extract of ergot having been given till pains in uterine region were produced, the sponge was removed, and the vagina cleansed of foul clots, &c., by the injection of a weak solution of permangate of potass. All went on well again for four days.

July 2d.—During the morning visit, profuse hæmorrhage recurred without provocation, suddenly as before. The sponge was immediately replaced, and twenty-drop doses of "compound tincture of vitriol" given every two or three hours. Two days after this the plug was removed, and all remained quiet until—

July 8th, when hæmorrhage came on again with the same violence. The abdomen had been swathed constantly all this time; and the uterine tumor, solid, and never large, had now subsided to nearly or quite the usual size.

July 9th.—In night, after a disturbed, restless, "nervous" period, an astonishingly large quantity of colorless, serous liquid flowed through the sponge plug, saturating the clothing and numerous cloths applied to receive it. This subsided spontaneously, before medical advice could be obtained.

July 10th.—Although the uterus was apparently of normal size, and the os nearly or quite closed, yet, after a consultation with Dr. C. G. Putnam, who had seen her previously also, it was determined to get up, if possible, a new action in the organ. To do this, small, compressed, pointed and waxed sponge tents were introduced, not without difficulty, and a way gradually drilled as it were into the uterine cavity. By renewing the tent every twelve hours, in the course of three days one passed at last (July 13th) completely into the

uterus, and was allowed to remain there until the following day.

14th.—Pains coming on smartly in the uterus, hips, &c., two drachms of fluid extract of ergot were given, and half an hour afterwards the outer sponge, and then the inner plug, now swollen within the uterus to about the size of a small horse-chestnut, were successively removed. Two clots, a dark-colored and a light-florid one, each about the size of a walnut, were thrown off from the uterus with a little digital assistance. Contraction of the organ now appeared to be firmly established, and everything for a moment seemed once more to promise well; but shortly after this, on the same day, hæmorrhage returned, requiring the large plug at once. A ghastly convulsion soon followed, and the case for a time looked appalling and desperate in the extreme.

Reviving, she was delirious the greater part of the following day (July 15th), in the course of which, the hæmorrhage continuing, the plug was removed, and a similar large conical sponge, the end filled with a drachm or more of powdered persulphate of iron, was crowded up tightly to the os uteri.

July 16.—This plug was removed, and large quantities of disintegrated, slaggy clots were washed from vagina as before.

No more hæmorrhage followed—the first having occurred June 25th, the last, July 15th.

In the night of July 16th she was very wild, noisy, singing, and striking at the attendants, striving to get out of bed, &c. About midnight, after repeated doses of morphine, she became more quiet, and towards morning fell asleep.

July 17th.—Calmer, exhausted, and sleepy. Pulse down to 100. No hæmorrhage. Had a spontaneous natural dejection.

After this date she required no medicine of any kind. Was dizzy at times, with much confusion in head. Slept much, and had frightful dreams occasionally; appeared excessively feeble, blanched, and wasted.

Oct. 2d.—Up to this time she has had a slow but steady convalescence, not being able to leave her room until the latter part of September, and now only occasionally.

Dr. Cotting remarked that this case is noticeable in the lateness and violence of the hæmorrhage, its repeated recurrence, and the amount of intervening serous discharge—all occurring while the uterus was firmly contracted to nearly or quite a normal size.

Under the supposition that the contraction might possibly have been irregular or ineffective in some portion of the interior, the organ was stimulated to a new contractile effort by the introduction of a tent, and with it the administration of ergot.

Relief followed the course pursued; nevtheless, the immediate cause of the hæmorrhage, and that also of its cessation, are involved in a good deal of obscurity.

Dr. Read spoke of hæmorrhage after the cessation of the lochia, from some want of power over the extreme vessels. He thought it a wonder that the vessels and sinuses closed up so well as they do after delivery. He remarked that there was no direct communication between the circulation of the fœtus and that of the mother; that the connection was by apposition of the fœtal and maternal vessels; consequently no blood of the mother goes directly to the fœtus.

Dr. Parks wished to know his opinion as to the cause of the mother's losing so much blood in partially detached placenta prævia.

Dr. Read thought that the hæmorrhage in placenta prævia took place from the uterus, in consequence of the os uteri becoming dilated towards the end of pregnancy. He said that the blood flows in the intervals of the pains; but it is thrown off during the contractions; and that tufts of the uterus are torn by detachment of the placenta, so as to leave open mouths of the vessels.

Dr. Putnam spoke of similar hæmorrhages from simple hyperæmia of the mucous membrane.

Dr. Read said that no fluid injected into the vessels of the mother had been found in those of the fœtus; neither had fluids introduced into the fœtal circulation been detected in that of the mother. He thought the blood of the fœtus was of lower organization than that of the mother.

Dr. Putnam spoke of the easy matter of detachment of the placenta of the pig.

Dr. Read said that in about two thirds of the cases the placenta prævia was only partial; and the rule was to separate the placenta partially, and turn and deliver. When, however, the placenta was central, it might be necessary to separate it wholly; but in such cases the life of the child was sacrificed.

Dr. Cotting mentioned a case in which the placenta was only partially over the os, and in which he separated the placenta partially, and the fœtal head came down and formed a plug.

Dr. Ayer spoke of the use of cathartics

after confinement. He generally gives oil on the second or third day.

Dr. PUTNAM thought the patient generally got the oil, whether the physician wished it or not. He generally thought it proper to give it on the third day, but preferred to use it in conjunction with sulphur and magnesia. He remarked that this was the practice also of some of the members of this Society.

Dr. READ gave a brief account of the following case, then under his treatment.

CASE.—*Subinvolution of the Uterus.*—The patient is feeble, anæmic, and has pain in the back. She married, and became pregnant; was confined, and had a poor "getting up." When seen, she flowed very much at her menstrual period, which was every three weeks. The uterus was very much anteflexed; the neck elongated, soft; and the whole organ laid very low, resting on the rectum. He used as a local application the iodized cotton, packed with a cotton tent wet with glycerine. The treatment was continued four weeks, when the patient improved. She now walks better in the street; and the size of the uterus is reduced, and the organ can be raised on the finger without giving pain. The os uteri is getting firmer and is looking more natural.

The glycerine causes large quantities of serum to flow from the vagina, and thus reduces the engorgement of the parts. Iodized cotton gets bleached in about twenty-four hours; cotton is afterwards inserted, wet with glycerine.

Hospital Reports.

BOSTON CITY HOSPITAL.

Operations in the Service of Dr. C. D. HOMANS. Reported by G. B. SHATTUCK, House-surgeon.

I.—*Amputation of Leg.*—Edward D., domestic, aged 26. Entered the Hospital July 18th, with his left foot somewhat swollen over the tarsus among the soft tissues, at which point there was a doubtful feeling of fluctuation. Had had pain and swelling about the ankle joint for two months preceding his entrance, following as he thinks upon a slight sprain; lately he has been unable to use his foot. Slight crepitus can at times be detected. Poultice.

July 25th.—Glue bandage placed upon foot.

Aug. 17th.—Bandage removed. There being no increase of strength in the part and the sense of fluctuation being clearly established, patient was etherized and two free incisions made upon dorsal aspect of foot; the discharge of fœtid pus following the incision was quite considerable, and upon examination the bones of the tarsus were found to be completely disorganized.

Aug. 18th.—Patient advised to have foot amputated, but declined.

Aug. 31st.—Patient consenting to operation, the leg was amputated four inches above the ankle. Though a portion of the flap sloughed he eventually made a good recovery, getting an available stump. He had been the victim of phthisis for more than a year before coming to Hospital, and upon entrance the right lung was found in an advanced state of disease, the physical signs being well marked. The disease did not seem to make much progress whilst in Hospital, and after the operation the rational signs were relieved rather than otherwise.

II.—*Excision of Elbow Joint.*—D. D. T., cabinet maker, aged 47. Whilst working in a furniture manufactory, was wounded by a trip saw. The saw caught the right arm upon the posterior aspect just below the elbow-joint, passing in an oblique direction upwards; the olecranon was separated from the ulna and the head of the radius injured, the humerus being left unhurt; the two sides of the external wound thus made formed nearly a right angle. The elbow-joint was fairly opened. In Dr. Homans's absence Dr. Thaxter resected the joint, sawing off the heads of radius and ulna, and leaving the humerus untouched. The arm was put up with an internal angular splint and subjected to irrigation. Three days after the operation an erysipelatous blush made its appearance, extending up and down the arm from the elbow. The splint and stitches were removed, and the irrigation discontinued. Charcoal poultice applied.

The erysipelas began to decline five days after its appearance, leaving the arm in a bad condition, the extremities of the humerus being exposed through the gaping wound. Patient consenting to amputation, it was performed fifteen days after original injury, the humerus being sawed four inches below the shoulder-joint. Patient left the Hospital in three weeks for the country, with a promising stump.

III.—*Amputation of Leg.*—Frank McK., aged 25. Cook. Fell from the front platform of a horse car, the wheel of the car passing over right leg. Both bones

were fractured, the tibia in two places, the shaft of the bone being split down into the ankle-joint, as was afterwards ascertained. The fracture was about the juncture of middle and lower thirds of leg. There was a lacerated wound five inches in length, extending obliquely across the leg just above the seat of fracture, beneath the edges of which the integument was dissected up for some distance. The opening connecting with the bone was very small, not admitting the end of the little finger. A slight though steady stream of arterial blood continued to ooze up from the wound until restrained by pressure. Amputation was performed by the circular method, and the bones sawed three inches below the knee. The patient left the Hospital in eight weeks with an excellent stump.

IV.—*Amputation at Shoulder Joint.*—R. N., aged 17. Mechanic. Was caught in a belt attached to a fly-wheel, and carried around four or five times before the machine could be stopped. The left arm was dreadfully lacerated from the elbow to the shoulder, the soft parts being stripped into shreds, and the humerus broken in several places; the axillary artery was laid bare, and tied before patient was brought to the Hospital. Both bones of right leg were thoroughly comminuted for a distance of seven inches about the middle of leg, the knee-joint not being implicated, nor the ankle-joint as far as could be ascertained. There was a small compound opening upon the outer aspect of the leg.

Patient had lost considerable blood before reaching the Hospital. Amputation at the shoulder-joint was performed immediately after the patient arrived, an adaptation of Larrey's method being practised. The soft parts were found much bruised as high as the joint. But little blood was lost during the operation. Patient did not rally from accident and operation, and died in twenty-four hours.

V.—*Removal of Tumor of Breast.*—Sarah P., aged 45. Widow. Had a small scirrhous tumor of left breast of six months duration, occupying the site of the nipple and about the size of an English walnut. Patient did not refer its first appearance to any injury received on the part. The tumor was moveable with the breast; the glands in the neighboring axilla were involved. The tumor and the glands in the axilla which seemed to be involved were removed together; the wound did well, and with the exception of a slight attack of erysipelas, cicatrized without drawback and rapidly. The patient's general condition remained as it had been before the operation; her face very pallid, the action of the heart feeble and irregular. She is now, three months after the operation, in bed with a large tumor in the abdomen referred to the liver.

VI.—*Trephining Skull.*—M. R., aged 30. Whilst engaged in raising a large block of stone the derrick in use broke, and the stone struck patient over frontal bone, though not with its full weight. He was brought immediately to the Hospital; there was a scalp wound three inches long extending transversely over right eyebrow, the tissues at its edges being dissected up some distance. Just over the superciliary ridge of the same side there was a fracture of the skull, with very slight depression of one border of the fracture. There were no symptoms of compression; the patient, though stupid, was conscious, and to a great extent rational; the pupils were partially dilated, and responded sluggishly to the influence of light; the tongue was protruded in the median line. Pulse 76. ℞. Olei tiglii gtt. ii.

Patient continued for two days in about the same condition as at entrance, being at times perhaps a little more intelligent; upon the third day considerable swelling and ecchymosis appeared about the right orbit, and the eye became closed. From this time he became more stupid, less easily roused; the pulse more rapid and feeble, and the urine was passed in bed involuntarily, until the sixth day after the injury, when he was trephined.

A T-shaped incision having been made over the right orbit, and the integument drawn aside, the bone was found denuded of the pericranium in the neighborhood of the seat of fracture, having a dry and yellowish appearance; the trephine was entered over the right frontal eminence, and a disk of bone 1½ inches in diameter removed with it. No depression could be discovered, and no deposit of pus; the bone around the opening made was everywhere firm. Patient continued in much the same condition after, as before the operation, until 5, A.M., of the next day, from which time he failed slowly, but steadily, and died at 4 o'clock of that afternoon.

Autopsy, eighteen hours after death. The scalp being removed, the pericranium was found bloody in places, closely adherent to the bone and with difficulty dissected from it; this being done, a fracture was brought to view, the line of fracture extending from the supra-orbital foramen upon the edge of the right orbit longitudinally over the vertex of the skull, gradually tending

toward the median line; upon reaching the lambdoid suture near the occipital protuberance, the fracture followed the course of that suture to the right as far as its junction with the squamous suture.

Upon removing the calvaria, the fracture was found to extend along the base of the skull, across the right orbital plate of the frontal bone, and the wings of the sphenoid, thus joining with the line of fracture from the back of the skull, which could be observed upon the inside passing just over the petrous portion of the temporal bone. The lateral sinus upon the right side had been apparently slightly injured, as a considerable clot was found in this situation.

The membranes of the brain were in an inflammatory state, the vessels being thoroughly injected; the brain itself was softened and degenerated at the point of the original blow; no abscess was found in the brain, but pus had collected between the hemispheres in the longitudinal fissure.

Bibliographical Notices.

Atlas of Venereal Diseases. By A. Cullerier. Translated by F. J. Bumstead, M.D. Part V. Philadelphia: Henry C. Lea. 1868.

The fifth and concluding number of this magnificent work has reached us. It treats of constitutional syphilis; and we have no hesitation in saying that its illustrations surpass those of the previous numbers. The colored lithographs of cutaneous syphilis are superior to those of Wilson, and certainly finer than any before produced in this country.

The Editor's preface concludes the volume; and after enumerating, modestly, the difficulties inherent in so great an undertaking, he alludes to the differences of opinion between the author and himself as to the unity or duality of the syphilitic virus. On account of this very difference he thinks himself the better adapted to edit the work, in a spirit of friendly criticism, which may exhibit both sides of this disputed question.

Very great credit should be given to the publisher for the enterprise and liberality he manifests in incurring the pecuniary risk of reproducing so costly a work. We trust he will be sustained by the profession; and we feel sure that every physician will find these volumes invaluable for reference.

A Treatise on the Principles and Practice of Medicine and Pathology, Diseases of Women and Children, and Medical Surgery. By W. Paine, M.D., Professor of the Principles and Practice of Medicine and Pathology in the Philadelphia University of Medicine and Surgery, &c. Third Edition. Philadelphia University Publishing Society. 8vo. Pp. 956.

We suppose the author has found his profit in the publication of this work, as the book before us bears the stamp of the third edition. We wish we could say as much for his readers.

The Philadelphia University, which must not be confounded with the University of Pennsylvania, is a medical college of recent formation, professing not to teach either allopathy, homœopathy or eclecticism, but whatever is good in all three. One of the methods employed to increase its popularity has been the issuing of $100 shares; the owner of each share having the right to a ticket to each annual course of lectures, which he may sell, if he can, to some medical student for $75. This, it will be seen, is a very profitable investment; we regret to be obliged to add that we believe none of these shares are now in the market.

The author says:—"In presenting a new work upon the Principles and Practice of Medicine and Pathology, the object is to incorporate the modern investigations into the nature and cause of disease, and the improved methods of treatment by recently discovered therapeutic agents, into a concise text-book for the student and the profession."

Of these "improved methods of treatment" we shall give but one or two examples, selected at random, but these will suffice to give our readers an idea of Dr. Paine's merits.

With regard to hypertrophy of the prostate gland, Dr. P. states:—"The enlargement of the gland can usually be reduced with compound syrup of stillingia and iodide of ammonia. Take compound syrup of stillingia six ounces, iodide of ammonia one drachm; mix, and let the patient take one teaspoonful five or six times a day. . . . If the enlargement of the gland obstructs the urinary passage, sulphate of sanguinaria may be applied by means of Lallemand's porte-caustique; in other cases nitrate of silver may be applied with the same instrument, and the prostatic portion of the urethra thoroughly cauterized."

The Doctor's treatment of cancer of the uterus we give entire :—

"To treat cancer of the uterus, a large-sized glass speculum should be introduced into the vagina, and so adjusted as to entirely cover the portion of the uterus affected. Then apply with the probang a moderately strong solution of vegetable caustic, or of sulphate of zinc, allowing it to remain for several minutes, then removing it, apply a thick mucilage of slippery elm, filling the speculum. After which withdraw the speculum, and allow the elm poultice to remain in the vagina, and, if necessary, secure it by a T bandage. This application should be continued until all traces of the disease are removed. Afterwards the parts should be dressed with very mild zinc ointment, and frequently cleansed by the use of antiseptic washes. The constitutional treatment consists of tonics, iodide of ammonia, iron, Donovan's solution, Fowler's solution, and Mecca oil."

Medical and Surgical Journal.

Boston: Thursday, January 14, 1869.

A CROWDED PROFESSION.

According to the Boston Directory for 1868, there are are in this city 574 persons who are, or claim to be Doctors; who either possess, or assume the title.

In this vast number we notice the first and largest division to be composed of the regular army, so to speak, 275 strong. Next, among the volunteers, who, on plea of greater latitude, have strayed off from the main force, are 13 members of the Eclectic Medical Society.

Forty-six light-skirmishers, with globules and infinitesimal weapons, follow next.

Then we have a division of female physicians, 60 in number.

And, bringing up the rear, are 180 professors of the healing art, whom the Directory somewhat pointedly terms "*other physicians*," and who represent, not inaptly, the camp followers of the main force.

Among the last two classes we find some curious specialties. Besides the electricians, botanic and cancer doctors, among the males, and the magnetic, sympathetic, mesmeric and clairvoyant doctors among the females, we have also two professed bone-setters—one who pursues Naturepathy, and one (female) who practises *Baunschedismus*.

Assuming the population of our city to be about 230,000, we have then one regular physician to every 800 people; and taking the whole medical force, one professor of healing to every 400 souls.

A goodly number, truly; and a very sickly community this ought to be, to support them all.

Others, perhaps, than those of our own profession may have noticed that in the newer sections of the city the names of doctors cover whole blocks of houses, and that not an eligible corner exists which is not occupied by an M.D.

Although the smaller towns and villages are more sparsely furnished with physicians, we are inclined to believe that all our larger cities are as much crowded; and those in the West still more than in the East.

An equal number of doctors to the population is not to be found in some parts of Europe, as in London, for example, where we have 2600 regular physicians and surgeons to about 3,000,000 people, being a ratio of less than one to a thousand. There, the excessive conservatism of the people, and the time and expense of acquiring an education, and, still more, practice, tend to keep the numbers down.

In our own country there is no check and no limitation to the making of doctors by rival medical schools. Very many young men are annually graduated from our colleges, and a considerable portion of them press into the cities, and increase the army of waiters who already throng every avenue, and crowd on every corner.

In this dilemma, what shall the young doctor do? We remember well the words of one of the most respected physicians who ever practised in this community :—"Do not wait for an opening. There never is an opening; you must make one for yourself."

Unless there are exceptional circumstances of family influence and inheritance of title, this is strictly true.

How can that opening be made? There is but one sure way, and that is by *work*. This alone will batter down the walls of competition and conservatism by which the young physician is hemmed in. Work must be coupled with persistence and with common sense. But the possession of all other qualities, without industry, will result in failure. Family, social, or *quasi* religious influences may secure a certain amount of practice, but it will be ephemeral, and of but little value compared to that which follows individual energy and effort, particularly if the spur of necessity is behind. In the medical profession, as in all other business in life, a man is respected as he respects himself; he is valued for what he knows; and he succeeds by the possession of common sense and tact. Social and other pleasant qualities assist; but they will never compensate for the lack of brains and education, pluck and energy.

THE WRITING OF PRESCRIPTIONS.—There is a portion of medical education which would seem to be imperfectly provided for in the existing methods of instruction at our schools. Upon entering practice the medical man finds himself called upon to write, at a moment's notice, prescriptions which will not only be likely to benefit his patients, but which have often to bear the scrutiny of persons well qualified to judge of the language in which they are couched, and disposed to compare them with others in their possession. With certain honorable exceptions, we do not think that teachers apply themselves to this branch of instruction—the writing of prescriptions—with the energy which they might display. There are plenty of men turned out of school each year well qualified, as regards their knowledge of pathology and the *principles* of treatment, to hold their own perfectly well, and to act as safe guardians of public health; but set them down to write a prescription in tolerable Latin, and with a just recognition of the qualities of the drugs employed, their compatibility or appropriateness of dose or form, and they will produce results sufficiently remarkable to excite the astonishment of any druggist's assistant who is used to the well-conceived productions of more experienced advisers. We chance to know that at two recent examinations the deficiency of candidates in this respect was very striking. At the examination in Medicine at the College of Surgeons, there were instances of lamentable ignorance in regard of the proper doses of drugs; whilst even at the second M.B. examination of the London University—the last place where such ignorance would be looked for—signal examples occurred of men, otherwise well instructed, who could not write a decent prescription in Latin. There is, no doubt, one good reason for this deficiency. In hospital practice, students are so much more accustomed to see the severest forms of organic disease than functional derangements of passing character, that they are, in the nature of things, from observing the inertness of drugs in checking the tendency to death, disposed to scepticism about the value of such agents. It is one of the weak points, indeed, of medical education, that the student can with difficulty receive adequate instruction respecting the class of ailments which abound in private practice, but are rarely seen within the walls of hospitals. In this repect he, no doubt, was better circumstanced under the old system of apprenticeship. Scattered through the kingdom, there are great numbers of private practitioners who, from long experience, have acquired for themselves a knowledge of the use of drugs, and the best mode of employing them, which is of daily service in their practice. This knowledge, it must be allowed, cannot altogether be taught anywhere. The lesson has to be learnt in great part by the practitioner himself, and he has often to go through many disappointments and mortifications ere he learns it. The inapplicability of a drug under certain circumstances, its objectionable qualities as regards taste, form, and color to persons of peculiar nature, the results which it produces, and the time occupied in producing them, together with numberless other apparently trivial but really important matters, constitute bits of knowledge which often make all the difference in the success or failure of a medical man's career. And here we would urge that great consideration is due to the public on such points. Our patients blindly swallow what we order them; follow our instructions, however disagreeable; and it is palpably a duty which we owe to society that the results which we seek to attain should be brought about with the least discomfort possible to those who thus submit themselves to our orders. Every day's experience shows us that for almost every therapeutical indication there are several modes of arriving at an equally good end, some easily followed and not disagreeable, others in the last degree vexatious and uncomfortable. Successful gene-

ral practitioners, expert in this kind of knowledge, may, and very often do, impart the most useful hints to their pupils upon this subject—hints which in their future career they turn to profitable account. The physicians and surgeons of our hospitals, equally well informed as they doubtless are in such matters, do not, we think, always reflect upon the duty of impressing such experience upon the pupils in the wards. We have seen, over and over again, in the metropolitan hospitals, prescriptions which we should never dream of employing in the case of a private patient. The different habits of life which make the treatment suitable in the one case would pretty certainly entail the loss of a patient if it were employed in the other. It is for the teacher to remember this difference, and to point out the fact to his pupils. It is for him also to see, by frequent examination, that the student is able to frame his thoughts, when prescribing, in suitable words, and with a just appreciation of what is sought to be effected by the prescription. The world is large. For every patient unhappily afflicted with irremediable disease, the practitioner will meet with fifty in which a dexterous employment of the drugs at his command will make all the difference in the sufferer's comfort, and in the duration of the passing malady. To effect this object, however, he must have that delicate insight into the uses of drugs which is not acquired without a good deal of trouble in the wards of an hospital. But whilst we thus allow the difference of the circumstances and the difficulty of contending against them, we still think that more might be done in the way of teaching the student to exercise a little taste and refinement in the writing of a prescription, and in ensuring that he is accurately acquainted with the appropriate doses of the drugs he employs.—*Lancet.*

Prevention of Sea-sickness.—We quote from an article on Sea-sickness, in the *New York Medical Journal,* by Dr. Fordyce Barker.

The following suggestions for the prevention of sea-sickness were first written some years ago for a gentleman whose business required him to cross the Atlantic often, and who was always kept in his room by severe sea-sickness during the whole voyage. By implicitly following the directions given, he has suffered very little from sickness, and has been able to go on deck by the second or third day, and has been entirely exempt from sickness for the remainder of the voyage. They have since been copied many times, and their value thoroughly tested. The trouble, however, is, that most persons do not appreciate how much easier it is to prevent sea-sickness than to cure it; and so, none but those who have before suffered will thoroughly carry out the directions, and, neglecting some of them, are disappointed in the results:—

1. Have every preparation made at least twenty-four hours before starting, so that the system may not be exhausted by overwork and want of sleep. This direction is particularly important for ladies.

2. Eat as hearty a meal as possible before going on board.

3. Go on board sufficiently early to arrange such things as may be wanted for the first day or two, so that they may be easy of access; then undress and go to bed, before the vessel gets under weigh. The neglect of this rule, by those who are liable to sea-sickness, is sure to be regretted.

4. Eat regularly and heartily, but without raising the head for at least one or two days. In this way, the habit of digestion is kept up, the strength is preserved, while the system becomes accustomed to the constant change of equilibrium.

5. On the first night out, take some mild laxative pills, as, for example, two or three of the compound rhubarb pills.

Most persons have a tendency to become constipated at sea, although diarrhœa occurs in a certain percentage. Constipation not only results from sea-sickness, but in turn aggravates it. The reason has already been given why cathartics should not be taken before starting. The effervescing laxatives, like the Seidlitz, or the solution of the citrate of magnesia, taken in the morning on an empty stomach, are bad in sea-sickness.

6. After having become so far habituated to the sea as to be able to take your meals at the table and to go on deck, never think of rising in the morning until you have eaten something, as a plate of oatmeal porridge, or a cup of coffee or tea, with sea-biscuit or toast.

7. If subsequently, during the voyage, the sea should become unusually rough, go to bed before getting sick. It is foolish to dare anything when there is no glory to be won, and *something* may be lost.

Labor complicated by Thrombus of Vagina and Perinæum.—Dr. Geo. T. Elliot reports the following case in a paper published in the *American Journal of Obstetrics:*—

On the 12th of July, 1868, I was summoned by Dr. Lewis A. Sayre to a lady in labor with her first child, with the following history: The labor was progressing naturally, though slowly, and as some time must of necessity elapse before the child could be born, Dr. S. left and went to his own house, in the immediate neighborhood. From thence he was summoned by the nurse, who sent word that all would soon be over. Dr. S. went immediately, and supposed at first, from the character of the pains, that such was the fact; but on vaginal examination he discovered that the head had not advanced, but that the vaginal walls and perinæum were as enormously distended by a rapidly increasing thrombus as they could be by the head. When I reached the house I found this state of things, and while we procured instruments and the persulphate of iron, the tumor continued rapidly to increase. The patient was under chloroform moderately, and did not seem as yet greatly exhausted. We gave her a large dose of brandy, melted Borden's extract of beef, provided ammonia and salts, and decided to attempt delivery by forceps, and to incise when necessary. Dr. Sayre introduced my forceps, and had to carry the transverse bars within the vulva to seize the head, which had completed the movement of descent. He rapidly locked the blades and drew, when the right labium cracked through the mucous surface, and a large clot of blood flopped out with such violence that a portion struck the top of my head, a distance estimated by measurement at three feet. I was seated on Dr. Sayre's right, holding, and outside of, the patient's left leg. She was on her back. A bistoury had previously been placed ready for use, and now Dr. Sayre freely incised the left labium and delivered a living child and the placenta with great rapidity. He then rapidly removed with his fingers broken-down cellular tissue from the gaping wound on the right side, and stuffed the open places on the right and left (which extended in an irregular and jagged way across the perinæum) with lint steeped in Squibb's liquid persulphate of iron. He then gave ergot, and bandaged the woman with compresses and a T-bandage below. No more blood was lost at any future time. The patient was thoroughly fed and stimulated, and treated for the depressing influences of the loss of blood. The vagina was injected on the third day with a solution of weak carbolic acid, and gradually repair was effected, and the patient's health restored.

I am conscious that my description gives but a faint idea of the severity, extent, and startling suddenness with which the thrombus advanced, or of the activity and thoroughness of the treatment.

What is Soda-water?—Is the absence of soda from soda-water a generally understood fact? That is the dictum of a respectable member of the trade, at the recent London Pharmaceutical Conference. It was a comment, in the course of discussion, upon a paper by Mr. Proctor, in which he stated that not one of five samples proved what it ought to be, even in cases where the name of the maker might be expected to be a guarantee of good quality. Several speakers insisted that the less soda the soda-water contained, the more it was relished. In answer to the question that it would be highly interesting if soda-water manufacturers would let the public know what soda-water contains, Mr. A. J. Caley said that four years ago they manufactured soda-water with fifteen grains of soda per bottle, and people complained and said, "What is the matter with this soda-water? it tastes like soap." They then decreased the quantity of soda; and in proportion as they did so, their trade increased. He could not state the exact quantity now dissolved, but perhaps it was the fraction of a grain. He thought it very desirable that people should not be supplied with soda-water with fifteen grains of soda in it, which, he hinted, might not be conducive to health. If a prescription, however, were ordered by a physician, soda-water of a definite strength would be supplied.

Cretinism in Switzerland.—The *British Medical Journal* says a careful census has recently been taken, of which the object has been to estimate the amount of cretinism in the valleys and mountains of Switzerland. In the nineteen cantons there were found 3,431 cases of cretinism, and 6,258 cases of insanity; and, as the population of the country amounts to 2,032,119 inhabitants, it follows that these 10,058 persons of weak mind give the enormous proportion of one mentally diseased person in 202 inhabitants; and even this is believed to be below the truth.

Dr. W. J. Elstun has been appointed Second Assistant Physician of the Indiana Hospital for the Insane. Dr. Everts is the Superintendent, and Dr. Hester First Assistant.

Selections and Medical Items.

TWO EXTRAORDINARY FORMS OF RECTAL FISTULA.—E. Andrews, M.D., contributes to the *Chicago Medical Examiner* two unusual forms of this disease. The first, a female child of 12 years, was in the third stage of hip disease. The head of the femur was exsected, which improved her condition. Shortly after, air was passed from the intestines through the wound. By injecting the rectum with tepid water, it flowed in a continuous stream from the incision by the trochanter. Pressure revealed the point where the fistulous tract crossed the tuberosity of the ischium, and where the finger stopped the flow of water. A scalpel was passed down upon this point, the fistula was opened, and the water flowed freely out. A probe was passed along the tract towards the anus, another incision made upon it into the rectum, and the sphincter divided in the usual manner.

The other patient had old femoral hernia, which had terminated in an artificial anus in the groin, but had subsequently healed. Some years after, the whole surface of the hip almost became chronically swollen and very tender, attended with great pain, erosion of its surface, and exhaustion. On examination, the inflammation did not appear to be connected with the joint. The swelling fluctuated, and gave distinct succussion upon coughing. The entire circumference was resonant upon percussion, and pressure caused a gurgling noise, proving the existence of air in the whole gluteal region. The patient passed a considerable quantity of pus every day at stool, with some blood. By injecting the rectum full of air, the tumor was easily distended. An incision was made half way between the trochanter and the border of the sacrum, down to the glutæus maximus muscle. Carefully dividing the muscular tissue, the cavity was opened. The cavity proved to be a large one, from which rushed a quantity of fœtid gas, followed by pus mixed with decayed fæcal matter. Water injected into the rectum passed freely from the wound. By passing a probe into the cavity, the fistula was found to run through the sciatic notch, above the greater ligament, and the opening, as large as the finger, could be felt on the side of the rectum. The external incision was then enlarged, the index finger introduced into the rectum, and the sphincter divided at one stroke. For a few days the sac discharged its accumulation of fæces, but soon it sent forth clean pus, with occasionally a little flatus. The sac collapsed, granulated rapidly, and was obliterated, and the patient is now rapidly recovering.—*N. Y. Medical Record.*

SYPHILITIC STRICTURE OF THE LOWER BOWEL TREATED BY MERCURIAL VAPOR BATH.—Dr. Bird, of Melbourne, reports the following case:—

A gentleman consulted me some months ago with the following symptoms. A hard base of an old chancre on the prepuce, and scattered coppery scaly eruption about the trunk. These symptoms dated for some months, and were avowedly syphilitic. Latterly, he had found increasing difficulty in passing his fæces, which came away in thin pieces about the diameter of the little finger. When he had neglected the bowels for some days he was liable to a hard collection in the cœcum, which required repeated enemas and doses of oil to dislodge. The gut could be felt as a hard, round cord externally, as the sigmoid flexure dipped into the rectum. The finger failed to reach the constriction, but with a little care a rectal bougie was introduced into it, and so tightly gripped that considerable force was required for its extraction. He had suffered a good deal from dyspepsia, was very low-spirited, and had the faded look common to these cases. He had a horror of taking mercury, because another medical man had given him one-quarter-grain doses of the bichloride, which had produced violent mucous irritation and aggravated his symptoms. I made him use a Lee's lamp with one scruple of calomel every other night, and take ten grains of ox-gall, with one grain of extract of aloes, every night. This made the fæces so soft and homogeneous that they passed readily without the necessity for enemas. The treatment was persevered in for four months, at the end of which time he had no trace of syphilis visible, and passed large healthy stools without any trouble. He is now in better health than he has been for years.—*Dublin Medical Press and Circular.*

MEDICAL DIARY OF THE WEEK.

MONDAY, 9, A.M., Massachusetts General Hospital, Med. Clinic. 9, A.M., City Hospital, Ophthalmic Clinic.
TUESDAY, 9, A.M., City Hospital, Medical Clinic; 10, A.M., Medical Lecture. 9 to 11, A.M., Boston Dispensary. 10–11, A.M., Massachusetts Eye and Ear Infirmary.
WEDNESDAY, 10 A.M., Massachusetts General Hospital Surgical Visit. 11 A.M., OPERATIONS.
FRIDAY, 9, A.M., City Hospital, Ophthalmic Clinic; 10, A.M., Surgical Visit; 11, A.M., OPERATIONS. 9 to 11, A.M., Boston Dispensary.
SATURDAY, 10, A.M., Massachusetts General Hospital Surgical Visit; 11, A.M., OPERATIONS.

TO CORRESPONDENTS.—Communication received:—On the Use of Acids in Medicine.

PAMPHLETS RECEIVED.—On the Dynamics, Principles and Philosophy of Organic Life: An Effort to obtain definite conceptions of How do Medicines produce their Effects? A Valedictory Address to the Muskingum County Medical Society, by Z. C. McElroy, M.D., President, Zanesville, Ohio.—Thirteenth Annual Report of the Trustees of the State Lunatic Hospital at Northampton, October, 1868.

MARRIED,—At Peacham, Vt., Dec. 29th, Dr. David M. Merrill to Miss Elsie A. Choate, of Peacham.

DEATHS IN BOSTON for the week ending Saturday noon, January 9th, 98. Males, 46—Females, 52.—Accident, 4—apoplexy, 5—inflammation of the bowels, 2—disease of the brain, 4—bronchitis, 5—cancer, 2—consumption, 23—convulsions, 1—croup, 2—debility, 2—diphtheria, 1—dropsy, 2—dysentery, 1—scarlet fever, 4—typhoid fever, 3—disease of the heart, 1—hip disease, 1—insanity, 1—disease of the kidneys, 2—laryngitis, 1—congestion of the lungs, 1—inflammation of the lungs, 7—marasmus, 1—measles, 1—old age, 4—peritonitis, 2—premature birth, 3—puerperal disease, 5—pyæmia, 1—teething, 1—whooping cough, 1—unknown, 4.

Under 5 years of age, 30—between 5 and 20 years, 10—between 20 and 40 years, 24—between 40 and 60 years, 16—above 60 years, 18. Born in the United States, 66—Ireland, 26—other places, 12.